Format No: CP/TF/01

TEST REPORT ON BITUMEN

Lab ID	:	**CP-2017-05-18-01**	**Date: 20-05-17**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.	
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.	
Project Name	:	Providing and Asphalting to pot holes filling and road cuttings in Dasarahalli Ward No.15.	
Agency	:	Sri. G.N Ramesh, #01, 3rd Main Gandhi Grama, 7th Cross, Maruthi Extn., Opp, Malleswaram railway station, Bangalore-21	
Customer's Reference	:	EE/DD/WO/86/15-16	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	18-05-17	
Sample ID No	:	2017-05-18-01/01	
Sample Type	:	Bitumen	
Reference to BIS codes	:	IS: 1201-1220(1978) (Reaffirmed-2004)	
Date of test	:	18-05-17	

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	**68**	60 to 70
2	Softening Point, °C	**43.4**	Min. 40°C
3	Ductility, cm	**100**	Min. 75cm
4	Flash point, °C	**238**	Min. 220°C
	Fire point, °C	**252**	

Note:
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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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****End of Report****

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-05-15-01** **Date: 17-05-17**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Providing and Asphalting to pot holes filling and road cuttings in Dasarahalli Ward No.15.
Agency	:	Sri. G.N Ramesh, #01, 3rd Main Gandhi Grama, 7th Cross, Maruthi Extn., Opp, Malleswaram railway station, Bangalore-21
Customer Reference	:	EE/DD/WO/86/15-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	15-05-17
Sample ID No	:	2017-05-15-01/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	15-05-17

Result:

Index	Percentage of Flakiness and Elongation Index(%)	Secified limits as per MORTH specification table 400-12
Flakiness Index	9.5	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	9.1	
Combined Flakiness and Elongation Index for WMM	18.6	

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID	:	**CP-RW-2017-05-22-01**	**Date: 25-05-17**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.	
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.	
Project Name	:	Providing and Asphalting to pot holes filling and road cuttings in Dasarahalli Ward No.15.	
Agency	:	Sri. G.N Ramesh, #01, 3rd Main Gandhi Grama, 7th Cross, Maruthi Extn., Opp, Malleswaram railway station, Bangalore-21	
Customer Reference	:	EE/DD/WO/86/15-16	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	22-05-17	
Sample ID No	:	2017-05-22-01/01	
Type of Mix	:	BC (Bituminous Concrete)	
Date of test	:	22-05-17	

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	13.0	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	12.9		
Strength	Aggregate Impact Value	20.2	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.25	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	1.39	Maximum 2%	IS:2386 Part III

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-05-22-01**	**Date: 24-05-17**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.	
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.	
Project Name	:	Providing and Asphalting to pot holes filling and road cuttings in Dasarahalli Ward No.15.	
Agency	:	Sri. G.N Ramesh, #01, 3rd Main Gandhi Grama, 7th Cross, Maruthi Extn., Opp, Malleswaram railway station, Bangalore-21	
Customer Reference	:	EE/DD/WO/86/15-16	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	22-05-17	
Sample ID No	:	2017-05-22-01/01	
Type of Mix	:	BC-Plant (Bituminous Concrete)	
Date of test	:	22-05-17	
Oven Dry Weight	:	5000	Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	200	200	4.0	96.0	90-100
9.5	750	950	19.0	81.0	70-88
4.75	1150	2100	42.0	58.0	53-71
2.36	450	2550	51.0	49.0	42-58
1.18	400	2950	59.0	41.0	34-48
0.6	550	3500	70.0	30.0	26-38
0.3	550	4050	81.0	19.0	18-28
0.15	150	4200	84.0	16.0	12-20
0.075	600	4800	96.0	4.0	4-10
PAN	200	5000	100	0.0	0

Note:
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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2017-05-22-01** **Date: 25-05-17**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Providing and Asphalting to pot holes filling and road cuttings in Dasarahalli Ward No.15.
Agency	:	Sri. G.N Ramesh, #01, 3rd Main Gandhi Grama, 7th Cross, Maruthi Extn., Opp, Malleswaram railway station, Bangalore-21
Customer Reference	:	EE/DD/WO/86/15-16
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	22-05-17
Sample ID No	:	2017-05-22-01/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	22-05-17

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.25	13.01	10KN(min)
2	Marshal flow at 60°C, mm	4.20	4.68	2-4
3	Percent air Voids	4.93	4.46	3-5
4	Percent Voids in mineral Aggregate(VMA %)	15.32	15.24	13-15
5	Percent Voids filled with Bitumen(VFB %)	66.31	69.61	65-75
6	Density, g/cc	2.26	2.25	_

Note:

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